

CLAIMS

1. A composition for protecting a substrate from the effect of ultraviolet light comprising an effective UV-protective amount of one or more water-soluble polyaminoamides containing 1,3-diimine groups, wherein the polyaminoamides containing 1,3-diimine groups absorb ultraviolet light radiation having a wavelength of about 200 nm to about 420 nm.
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2. The composition of claim 1 wherein the polyaminoamides containing 1,3-diimine groups absorb UV radiation having a wavelength of about 280 nm to about 350 nm.
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3. The composition of claim 1 wherein the polyaminoamide containing 1,3-diimine groups further comprises one or more additional uv absorbing moieties.
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4. The composition of claim 3 wherein the additional uv absorbing moieties are selected from substituted and unsubstituted cinnamoyl, salicyloyl, and p-dialkylaminobenzoyl.
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5. The composition of claim 1 wherein the polyaminoamide containing 1,3-diimine groups is cross linked with one or more crosslinking agents.
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6. The cross-linked polyaminoamide containing 1,3-diimine groups according to claim 5, wherein the crosslinking agents are selected from the group consisting of diepoxides, dianhydrides, dihalogen derivatives, diesters, diacids, epihalohydrins and epihalohydrin/amine oligomers.
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7. The cross-linked polyaminoamide containing 1,3-diimine groups according to claim 6 wherein the crosslinking agent is selected from the group consisting of poly(ethylene glycol) diglycidyl ether, poly(propylene glycol) diglycidyl ether, epichlorohydrin, epichlorohydrin/dimethylamine oligomers.

8. A modified polyaminoamide containing 1,3-diimine groups prepared by reacting a polyaminoamide containing 1,3-diimine groups according to claim 1 with one or more modifiers selected from the group consisting of moieties containing cationic functional groups, moieties containing anionic functional groups and moieties containing substituted an unsubstituted aliphatic hydrocarbons.
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9. The modified polyaminoamide containing 1,3-diimine groups according to claim 8 wherein the moiety containing cationic functional groups is selected from glycidyltrimethylammonium chloride and N-(3-chloro-2-hydroxypropyl) trimethylammonium chloride.
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10. The modified polyaminoamide containing 1,3-diimine groups according to claim 8 wherein the moiety containing anionic functional groups is selected from chloroacetic acid and salts thereof, 1,3-propane sultone, 1,4-butane sultone.
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11. The modified polyaminoamide containing 1,3-diimine groups according to claim 8 wherein the moiety containing aliphatic hydrocarbon groups is selected from the group consisting of glycidyl ethers of C₆-C₁₈ aliphatic alcohols.
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12. The composition of claim 1 further comprising one or more cosmetically acceptable excipients.
13. The composition of claim 12 wherein the excipients are selected from the group consisting of saccharides, surface active agents, humectants, petrolatum, mineral oil, fatty alcohols, fatty ester emollients, waxes and silicone-containing waxes, silicone oil, silicone fluid, silicone surfactants, volatile hydrocarbon oils, quaternary nitrogen compounds, amine functionalized silicones, conditioning polymers, rheology modifiers, antioxidants, sunscreen active agents, di-long chain amines from about C₁₀ to C₂₂, long chain fatty amines from about C₁₀ to C₂₂, fatty alcohols, ethoxylated fatty alcohols and di-tail phospholipids.
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14. The composition of claim 12 selected from the group consisting of shampoos, sunscreens, conditioners, permanent waves, hair relaxers, hair bleaches, hair detangling lotion, styling gel, styling glazes, spray foams, styling creams, styling waxes, styling lotions, mousses, spray gels, pomades, hair coloring preparations, temporary and permanent hair colors, color conditioners, hair lighteners, coloring and non-coloring hair rinses, hair tints, hair wave sets, permanent waves, curling, hair straighteners, hair grooming aids, hair tonics, hair dressings and oxidative products, spritzes, styling waxes and balms.
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15. The composition of claim 12 selected from the group consisting of lotions, hand and body creams, liquid soaps, bar soaps, bath oil bars, facial cleanser, aftershaves, shaving gels, shaving creams, mascara, eye gel, eye lotion, body washes, deodorants, anti-perspirants, sunscreens, suntan lotions, after sun gels, bubble baths and hand and mechanical dishwashing compositions.
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16. A method of protecting a substrate from the effects of ultraviolet light comprising applying to the substrate an effective ultraviolet light protective amount of the polyaminoamide containing 1,3-diimine groups of claim 1.
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17. The method of claim 16 wherein the substrate is a keratin substrate.
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18. The method of claim 17 wherein the keratin substrate is skin.
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19. The method of claim 17 wherein the keratin substrate is hair.
20. The method of claim 16 wherein the substrate is selected from the group consisting of textile fiber materials, metal, wood, ceramics, plastics and paint.